REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Independent Claims 1-18 are presently active in this case. The present Amendment amends Claims 1 and 9 without introducing any new matter.

In the outstanding Office Action, Claims 1-2, 9-10, and 17-18 were rejected under 35 U.S.C. § 103(a) as unpatentable over Beshai et al. (U.S. Patent No. 6,339,488, hereinafter "Beshai") in view of Miles et al. (U.S. Patent No. 6,665,495, hereinafter "Miles"). Claims 3-5, and 11-13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Beshai in view of Miles, in further view of Greenberg et al. (U.S. Patent No. 6,970,451, hereinafter "Greenberg"). Claims 6-8, and 14-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Beshai in view of Miles, in further view of Drwiega et al. (U.S. Patent No. 6,842,463, hereinafter "Drwiega").

In response, Applicants' independent Claims 1 and 9 are amended to clarify a feature related to the connection of the internetwork connection unit. In particular, Claim 1 is amended to recite that "the internetwork connection unit is connected to the edge packet transfer unit, wherein both the packet recognizing unit of the edge-packet transfer unit and the packet recognizing unit of the internetwork connection unit identify the edge-packet transfer unit." These features find non-limiting support in Applicants' disclosure as originally filed, for example in the specification at paragraphs [0045]-[0046], and in Figure 4. Independent Claim 9 is amended to recite an analogous feature in the respective claim context. No new matter has been added.

In response to the rejection of Claim 1 under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly summarizing, Applicants' independent Claim 1 is directed to a packet communication system. The system includes, *inter alia*: at least two full-mesh wavelength-division-multiplexing transmission units, each of which includes n number of interfaces, the full-mesh wavelength-division-multiplexing transmission units capable of establishing a bidirectional full-mesh communication between all of the interfaces using a wavelength path based on a wavelength-division-multiplexing technique, where n is an integer equal to or greater than 3; an edge-packet transfer unit that includes at least a packet recognizing unit, an external-packet transmitting/receiving unit, and an internal-packet transmitting/receiving unit, and is connected to the interface of the full-mesh wavelength-division-multiplexing transmission unit; and an internetwork connection unit that includes at least a packet recognizing unit and a packet transmitting/receiving unit, and connects the full-mesh wavelength-division-multiplexing transmission units in a multistage tree-shaped structure through the edge-packet transfer units, ***the internetwork connection unit is connected to the edge packet transfer unit***, wherein ***both*** the packet recognizing unit of the edge-packet transfer unit and the packet recognizing unit of the internetwork connection unit identify the edge-packet transfer unit that is a next destination of a packet from a header of the packet.

As explained in Applicants' specification, the features of Applicants' independent Claim 1 improve over background packet communications, because the edge-packet transfer units can hold a direct communication over the same edge-packet transfer units of one full-mesh WDM transmission unit. (Specification, p. 19, ll. 5-11.) This allows to establish a stable communication with shorter delays and jitters, for example in a VoIP telephone communication, because the same wavelength path of the full-mesh WDM transmission unit can be maintained for a telephone call. (Specification, p. 19. ll. 11-18, p. 8, ll. 12-32.) Please note that this discussion is provided for explanatory purposes only, and shall not be used to limit the scope of the claims in any fashion.

Turning now to the applied references, Beshai is directed to a fully meshed telecommunications network based on an optical core transport network 12 having a plurality of optical nodes 14 that are connected with a number of electronic edge switches 18, 40. (Beshai, Abstract, Fig. 1, col. 4, ll. 49-65.) Beshai explains that an edge switch 18, 40 takes in all the traffic from any local nodes and diverts some to the optical node, and some other back to the local nodes. (Beshai, col. 5, ll. 46-53.) In a so called "single access configuration, Beshai explains that the optical edge switch 18 is associated with the optical node 14, and that the selection of an end-to-end path for routing data traffic is determined according to (i) network occupancy as well as (ii) link cost indices. (Beshai, col. 6, ll. 63-67.) This routing principle is explained in Beshai's Figures 4-5, where the vacancy of each node is analyzed to selectively rout data traffic to reduce cost indices. (Beshai, col. 7, ll. 14-30.)

Furthermore, Beshai discusses that his wavelength-division multiplexing (WDM) network can be arranged as a ring structure, where a parallel dual ring 120 can be used, so that each direction of transmission has more than one optical channel, to increase transmission bandwidth for data. (Beshai, col. 8, ll. 31-46.) To optimally use this ring architecture, Beshai suggests a rotator-based electronic switch that has m inlet modules, m middle buffers and m outlet modules. (Beshai, col. 10, ll. 32-40, Fig. 15.) Beshai explains that containers including data can be sorted in accordance with their outlet ports to facilitate their assignment to the middle buffers. In this electronic switch, each inlet module can transfer a number of containers, which may be addressed to different outlet ports, during its access time. (Beshai, col. 10, ll. 56-59.)

However, Beshai fails to teach all the features of Applicants' independent Claim 1. In particular, Beshai at least fails to teach the features of Applicants' Claim 1 related to the packet recognizing unit, and the internetwork connection unit, and the identification a destination of the packet from its header, as confirmed by the Office Action. (Office Action,

p. 5, ll., 13-15.) In addition , Beshai also fails to teach that the wavelength path of the next destination is identified based on a terminal destination address of the packet, the wavelength path maintained for successive packets, as further required by Applicants' independent Claim 1.

The pending Office Action rejected some of the features of Applicants' independent Claim 1 based on the reference Miles, and also assumed that the combination of Beshai and Miles is proper. However, Applicants respectfully submit that Miles also fails to teach all the features of Applicants' amended independent Claim 1, as next discussed.

Miles is directed to a method for providing non-blocking routing of optical data through a telecommunications router, where an optical router 50 has ingress edge units 60 and egress edge units 160, that are linked by an optical switch core 30 with links 32, 33. (Miles, Abstract, Fig. 4, col. 6, ll. 54-67.) The ingress edge unit 60 may have an ingress interface port 92 at a data entrance from the link 33 of the optical core 30, an ingress packet processor 110, and a super packet factory 120. (Miles, Fig. 12a, from col. 18, l. 58, to col. 19, l. 6.) The interface port 92 itself is shown in Miles' Figure 13, and includes a packet classification and destination queue controller 112, that is configured to route incoming packets to appropriate destination queues. (Miles, col. 20, ll. 3-8.) The packet classification controller 112 can examine header information of each incoming data packet, to decide (i) to which egress edge unit 160 each incoming data packet is destined (ii) to which egress port 128 at the destination egress edge unit it is destined and (iii) other data routing characteristics, for example to fulfill quality of service requirements. (Miles, col. 20, ll. 11-18.)

Similar features are taught in Miles' column 28, lines 1-26, regarding the packet classification module 250. (Miles, Fig. 23.) Miles' packet classification module 250 can read header information of the incoming data packet, to examine a destination IP address and other information for forwarding a packet. (Miles, col. 27, l. 63, to col. 28, l. 32.) Moreover,

Miles explains that the packet classification controller 112 can examine the header information for each incoming data to determine to which egress edge unit 160 the data is destined to go to, with a respective destination egress port 128 at the respective egress edge unit. (Miles, col. 20, ll. 3-27.) However, Miles fails to teach all the features of Applicants' independent Claim 1. In particular, Miles fails to teach:

> ***the internetwork connection unit is connected to the edge packet transfer unit***, wherein ***both*** the packet recognizing unit of the edge-packet transfer unit and the packet recognizing unit of the internetwork connection unit identify the edge-packet transfer unit that is a next destination of a packet from a header of the packet.

(Claim 1, portions omitted, emphasis added.) Miles is silent on such a feature. As discussed above, in Miles, only the packet classification and destination queue controller 112 determines a destination of a packet. Therefore, Miles fails to remedy the deficiencies of Beshai, even if we assume that these references can be combined.

The applied reference Drwiega, used by the pending Office Action to reject some of the dependent claims in combination with Beshai, fails to remedy the deficiencies of Beshai and/or Miles, even if we assume that the combination is proper. This reference is directed to a management of the bandwidth capacity of tunnels so that the network is adaptive to the stochastic nature of incoming traffic. (Drwiega, Abstract.) Drwiega explains that a network administrator may decide that all requests for service from a first given node to a second given node should be served by a single tunnel, but optionally, the administrator can define different classes of service that can be served by different tunnels. (Drwiega, col. 5, ll. 42-46.) In this respect, Drwiega explains that if the available capacity of a tunnel is insufficient to accommodate a connection request, the admission controller 204 sends an indication of the available capacity to the originator of the request. (Drwiega, col. 5, ll. 54-60.) But just like the cited passages in Beshai and/or Miles, these features do not anticipate the features of

Applicants' independent Claim 1 related to the next destination of the packet that is identified, as discussed above.

Therefore, the cited passages of the applied reference Beshai, Miles and Drwiega, taken in any proper combination, fail to teach every feature recited in Applicants' Claim 1, so that Claims 1-8 are believed to be patentably distinct over Beshai, Miles and Drwiega. Accordingly, Applicants respectfully traverse, and request reconsideration of the rejection based on these references.

Independent Claim 9 recites features that are analogous to the features recited in independent Claim 1, but directed to a method. Accordingly, for the reasons stated above for the patentability of Claim 1, Applicants respectfully submit that the rejections of Claim 9, and the rejections of all associated dependent claims, are also believed to be overcome in view of the arguments regarding independent Claim 1.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-18 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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